
Title: CAP SCCP SSN reallocation

Source: NEC

The clash of SSN allocation for CAP has been under discussion for a long time. However, no satisfactory solution has yet been found. This contribution proposes a way forward.

1. Introduction

The history of the discussion on the clash of SSN allocation for CAP is as follows;

1. In 1997, ETSI SMG3 working party C proposed that the GSM community should assign SSN = 5 for CAP.
2. In May 1998, a request was made (on behalf of ETSI SMG) to the ITU-T that a globally standardised SSN number should be applied to CAP. The ITU-T did not agree to this request.

However, the ITU-T did accept a proposed change to Q.713, i.e. that every national network SSN should be passed transparently through international SS7 STPs.

3. In September 1998 at ETSI SMG 12 (Rome), the Japanese companies indicated that there was a problem with assigning SSN=5 for CAP. The problem was that the ITU-T had already assigned SSN=5 as a globally standardised SSN number for MAP.

Consequently the Japanese PDC system also used SSN=5 for MAP. So there was a potential clash between GSM systems and PDC systems. NEC presented a contribution to SMG12 (Rome) proposing that CAP should be assigned to a nationally standardised number (SSN=147) instead of a globally standardised number. SMG12 requested that the clash between GSM and PDC systems should be investigated further by SMG3 WPC. This proposal was presented in Tdoc SMG12 98S701.

The Japanese proposal for CAP as a national number SSN required implementation of the Q.713 modification agreed by the ITU-T in May 1998, i.e. that every national network SSN number should pass transparently through international SS7 STPs.

2. Current situation

Currently, the main topic of the discussion is whether or not the international SS7 STPs are guaranteed to relay national network SSN numbers. The discussion seems to have stopped at this point and no significant progress has been made.

3. Solution

This contribution proposes that all delegates who represent operators of international SS7 STPs should investigate this subject further. In particular these delegates are requested to find out the date by which the operators will have implemented the revised requirements of ITU-T Q.713 for transparently relaying national SSN numbers.

4. Reference

SSN allocation for GPRS and CAMEL (SMG12 98S701) is attached.

Title: SSN allocation for GPRS and CAMEL

Source: NEC

Abstract

This document contains SSNs defined in Japan (TTC), and alternative SSN value for CAP which we propose in order to avoid inter-working problems.

1. Introduction

SSN=5(0000 0101) is allocated for CAP in GSM 03.03(Phase 2+), however SSN=5 is already allocated for MAP by ITU-T and TTC(Japan) and it is already used for MAP in Japan.

And the proposal for SSN allocation for GPRS and CAMEL was presented to the last SMG12 meeting and SMG3 WP-C. If the SSNs in the range 1000 0000 to 1001 0110 are reserved for GSM specific applications (GPRS, CAMEL, etc), then the SSN for CAP should be moved into that range.

2. Proposed text in GSM 03.03

A proposed text in 03.03 section 8.1 and 8.2 might look as follows:

<p>8.1 Globally standardised subsystem numbers used for GSM The following globally standardised subsystem numbers have been allocated for use by GSM:</p> <table><tr><td>0000 0101</td><td>CAP</td></tr><tr><td>0000 0110</td><td>HLR (MAP);</td></tr><tr><td>0000 0111</td><td>VLR (MAP);</td></tr><tr><td>0000 1000</td><td>MSC (MAP);</td></tr><tr><td>0000 1001</td><td>EIR (MAP);</td></tr><tr><td>0000 1010</td><td>is allocated for evolution (possible Authentication centre).</td></tr></table> <p>8.2 National network subsystem numbers used for GSM The following national network subsystem numbers have been allocated for use by GSM:</p> <table><tr><td>1001 0011</td><td>CAP</td></tr><tr><td>1001 0100</td><td>gsmSCF (MAP)</td></tr><tr><td>1001 0101</td><td>SGSN (MAP)</td></tr><tr><td>1001 0110</td><td>GGSN (MAP)</td></tr><tr><td>1111 1101</td><td>BSS O&M (A interface);</td></tr><tr><td>1111 1110</td><td>BSSAP (A interface)</td></tr></table>	0000 0101	CAP	0000 0110	HLR (MAP);	0000 0111	VLR (MAP);	0000 1000	MSC (MAP);	0000 1001	EIR (MAP);	0000 1010	is allocated for evolution (possible Authentication centre).	1001 0011	CAP	1001 0100	gsmSCF (MAP)	1001 0101	SGSN (MAP)	1001 0110	GGSN (MAP)	1111 1101	BSS O&M (A interface);	1111 1110	BSSAP (A interface)
0000 0101	CAP																							
0000 0110	HLR (MAP);																							
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1001 0100	gsmSCF (MAP)																							
1001 0101	SGSN (MAP)																							
1001 0110	GGSN (MAP)																							
1111 1101	BSS O&M (A interface);																							
1111 1110	BSSAP (A interface)																							

SSN overview Table

(for info only)

SSN Bits	Q.713 Blue Book	Q.713 03/93	Q.713 09/97	GSM / MAP Phase 1/2	GSM / MAP Phase 2+ release '96	GSM / MAP Ph2+ GPRS Rel.'97 status iv/'97 early '98	TTC JT-Q713 04/97
00000000	SSN not known/not used	SSN not known/not used	SSN not known/not used				SSN not known/not used
00000001	SCCP management	SCCP management	SCCP management				
00000010	reserved for CCITT allocation	reserved for ITU-T allocation	reserved for ITU-T allocation				reserved for ITU-T allocation
00000011	ISDN user part	ISDN user part	ISDN user part				ISDN user part
00000100	OMAP	OMAP	OMAP				
00000101	spare	MAP	MAP	whole MAP reserved for possible future use	CAP	CAP	MAP
00000110	"	HLR	HLR	HLR	HLR		
00000111	"	VLR	VLR	VLR	VLR		
00001000	"	MSC	MSC	MSC	MSC		
00001001	"	EIC	EIC	EIR	EIR		
00001010		AUC	AUC	allocated for evolution (possible AUC)	allocated for evolution (possible AUC)		
00001011		spare	ISDN supplementary services				
00001100		"	reserved for international use				reserved for international use
00001101		"	broadband ISDN edge-to-edge applications				
00001110		"	TC test responder				TC test responder

SSN Bits	Q.713 Blue Book	Q.713 03/93	Q.713 09/97	GSM / MAP Phase 1/2	GSM / MAP Phase 2+ release '96	GSM / MAP Ph2+ GPRS Rel.'97 status iv/'97 early '98	TTC JT-Q713 04/97
0 0 0 0 1 1 1 1		"	}				}
to			}reserved for international use				}reserved for international use
0 0 0 1 1 1 1 1			}				}
0 0 1 0 0 0 0 0	spare	spare]]
to	"	"	}reserved for national networks				}reserved for national networks
1 0 0 1 0 0 1 1	"	"]]
1 0 0 1 0 1 0 0	spare	spare			gsmSCF (MAP)	gsmSCF (MAP)	
1 0 0 1 0 1 0 1	spare	spare				SGSN (MAP)	
1 0 0 1 0 1 1 0	spare	spare				GGSN (MAP)	
1 0 0 1 0 1 1 1	spare	spare]]
1 0 1 1 1 1 1 1							INAP
	spare	spare	}reserved for national networks				}reserved for national networks
1 1 1 1 1 1 0 0	spare	spare]]
1 1 1 1 1 1 0 1	spare	spare]	BSSOMAP	BSSOMAP]
1 1 1 1 1 1 1 0	spare	spare]	BSSAP	BSSAP]
1 1 1 1 1 1 1 1	reserved for expansion	reserved for expansion	reserved for expansion of national and international SSN.				reserved for expansion of national and international SSN.

CHANGE REQUEST No. A__r1

Technical Specification GSM 03.03 version 6.0.0

Submitted to SMG for approval without presentation ("non-strategic") []
with presentation ("strategic") []

Status at SMG []: Approved [] Rejected [] Postponed []

Phase 1: [] Phase 2: [] Phase 2+: [R'97] Work item: CAMEL

Other phase(s) affected: [] If yes, linked CR(s):

Proposed change affects: SIM [] ME [] Network [x]

Source: NEC

Date: 14/9/98

Subject: Definition of SSN for CAP

Category:

F - Correction	[X]
A - Corresponds to a Phase 2 correction	[]
B - Addition of Feature	[]
C - Functional modification of Feature	[]
D - Editorial modification	[]

Reason for change:

The change request changes the SSN for CAP from global to the national range of SSNs.

Sections affected, and additional explanation of details of change (if needed):

Section 8.1 and 8.2

Attached revised pages:

Page(s): 1

If other core Specifications are affected, necessary (and attached) Joint CRs:

Affects (possibly):	MS Test Specifications []	BSS Test Specifications []	O&M Specifications []
Attached CRs?:			
Cross Phase Compatibility:			
Change affects operation of:	Phase 1 MS in Phase 2(+) NW []	Phase 2(+) MS in Phase 1 NW []	CR to 09.90 attached:
Change affects operation of:	Phase 1 SIM in Phase 2(+) ME []	Phase 2(+) SIM in Phase 1 ME []	CR to 09.91 attached:

Other comments:

See also CR xxx from SMG3 WP-C on SSN reservation (approved in Stuttgart July 98).

8 SCCP subsystem numbers

Subsystem numbers are used to identify applications within network entities which use SCCP signalling. In GSM, subsystem numbers may be used between PLMNs, in which case they are taken from the globally standardised range (1 - 31), or within a PLMN, in which case they are taken from the national network range (32 - 254).

8.1 Globally standardised subsystem numbers used for GSM

The following globally standardised subsystem numbers have been allocated for use by GSM:

<u>0000 0101</u>	<u>CAP</u>
0000 0110	HLR (MAP);
0000 0111	VLR (MAP);
0000 1000	MSC (MAP);
0000 1001	EIR (MAP);
0000 1010	is allocated for evolution (possible Authentication centre).

8.2 National network subsystem numbers used for GSM

The following national network subsystem numbers have been allocated for use by GSM:

<u>1001 0011</u>	<u>CAP</u>
1111 1101	BSS O&M (A interface);
1111 1110	BSSAP (A interface);